APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,547	03/26/2001	Ronald S. Cok	82391THC	6840

7590 01/25/2005		EXAMINER

Thomas H. Close
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

	EXAMINER
	NGUYEN, CHANH DUY

ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/817,547	COK, RONALD S.
	Examiner	Art Unit
	Chanh Nguyen	2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 September 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-19</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-19</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

. Response to Remarks

1.   The remarks filed on September 20, 2004 has been entered and considered by

examiner.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Salam (U.S. Patent No. 6,081,073) in view of Shen et al et al (U.S. Patent No.

6,414,661 B1)).

As to claim 1, Salam discloses a dynamic controller for light emitting active matrix

display, the display being responsive a code value (e.g., 256 value) for producing a light

output (see column 3, line 30 through column 4, line 19). Salam teaches a photosensor

located on the display for sensing the light output from the display (see column 5, lines

20-24) and generating a feedback signal (i.e. analog signal outputted from camera 21 or

photosensor) representing thereof (see column 3,lines 58 through column 4, line 11).

Salam teaches a feedback signal converter (A/D converter 22) for converting the

feedback signal to a converted feedback signal (i.e. digital signal brightness reading for

the lamp outputted from A/D converter 22). Salam teaches a code value corrector

(microprocessor 3, memory H) including a memory (memory location H) responsive to a

code value (256 value) for producing a corrected code value (i.e. G value); see column

4, lines 1-35.

Salam does not mention an update calculator for creating an updated corrected

value by combining the converted feedback signal with the corrected code value and

storing the updated corrected code value in the memory. In same view of endeavor

(using photosensor for sensing the light output from the display; see column 8, line 64

through column 9,line 16), Shen teaches an update calculator (16-18) for creating an

update corrected code (i.e. digital value of the current I_{N+1} stored in RAM 20) by

combining the converted feedback signal (e.g., $I_0\tau_0$ generated by CCD camera; see

column 3, lines 4-12) with the corrected code value (I_N) , and storing the updated

corrected code value (I_{N+1}) in the memory (see column 3, lines 1-12 , column 6, lines

16-39, column 7, lines 9-15).   Shen teaches a feedback loop providing converted

feedback signal (e.g., $I_0\tau_0$) generated by a sensor (e.g., CCD camera) on the display

device to update a corrected code value (I_N to I_{N+1}) as the same way as applicant's

disclosed device (see Figure 2 of Shen). Therefore, it would have been obvious to one

of ordinary skill in the art at the invention was made to have used the update calculator

of Shen to the microprocessor of Salam because the update calculator of Shen provides

rapidly and accurately correct resulting non uniformities of an initially calibrated display

during its life (see column 2, lines 48-56 of Shen).

As to claim 2, Salam teaches that "transfer of the G values can be recording

them on a medium which is subsequently read into memory H"; see column 4, lines 36-

44. Thus, there are two memory one is medium memory and another one is memory H.
The computer (i.e. code value corrector) computes the G value then recording them to
the medium before reading into the memory H. The "medium" of Salam clearly reads
on the claimed an immediate memory for receiving and storing corrected data signal
from the data signal corrector as recited in the claim.

As to claim 3, Salam teaches that "in this case each lamp in turned on with
photocell receiving light from it and the digital reading for the lamp light is recorded in
microprocessor memory"; see column 5, lines 20-24. Thus, the microprocessor
memory reads on intermediate memory for receiving and storing converted feedback
signal (digital signal) from the feedback signal converter (22) as recited in the claim.

As to claim 4, Salam clearly teaches the feedback signals (i.e. analog signal
outputted from camera 21 or photosensor) being an analog current signal and the
converted feedback signal (digital signal outputted from A/D 22) being a digital code
value.

As to claim 5, converting the digital signals to analog signals prior to applying the
code value signals to the display device is well-known in the art as taught by Shen as
shown in element 14.

As to claim 6, Salam clearly teaches the code values being supplied to the
display as digital signals (i.e. analog signals are converted into digital signal by A/D
converter 22).

As to claims 7-8, Salam teaches that "each lamp in turned on with the photocell receiving light from it" (see column 5, lines 21-25). This reads on a photosensor for each display pixel .

As to claim 9, Salam clearly teaches means for sending every code to the representative pixel and producing a corrected code value for every code value; see column 5, lines 25-40.

As to claim 10, Salam teaches that the lamps of the instrument panel may be of different groups each group having its lamps set to a brightness particular to the group (see column 7,lines 8-29). This reads on the claimed "partition into multiple units" as recited in the claim, even well-known in the art as admitted by applicant on page 7,lines 14-17 of the specification.

As to claims 11-12, Salam clearly teaches color display device as recited in the claim; see column 7, line 39 through column 8, line 40.

As to claim 13, the claimed "color transformation" is broad enough to read on the color correction as taught by Salam.

As to claim 14-15, Salam teaches a global display attribute ambient illumination; see column 5, lines 45-55 and column 6,lines 58-66.

As to claims 16-17, Salam clearly teaches pixel specific display attribute and position specific display attribute as broad claimed languge. That is Salem's device can change the brightness of the specific pixel at certain or desired position on the screen.

As to claim 18, the G values for the lamp of Salam are updated depending on the

brightness of the lamp and the G values are stored in the memory H. This reads on the

claimed limitation updating the memory upon start-up as recited in the claim.

4.   Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salam in

view of Shen, as applied to claim 1 and further in view of Holloman (U.S. Patent No.

6,097,360).

As to claim 19, note the discussion of Salam and Shen above, Salam and Shen

do not mention the controller and the display device integrated on a common substrate.

Holloman teaches that the analog drivers, the control counters, decoders, and video

drivers are intended to be built on a common substrate using conventional TFT

construction on glass, ceramic or a metal substrate as desired with the light emitting

devices... (see column 4, lines 22-33). Therefore, it would have been obvious to one of

ordinary skill in the art at the invention was made to have used the common substrate

as taught by Holloman to accommodate the controller and the display device of Salam

as modified by Shen so that the display device is more compact.

Response to Arguments

5.   Applicant's arguments filed September 20, 2004 have been fully considered but

they are not persuasive.

On page 3, first paragraph, applicant argues that "because the present invention

relies upon actual feedback and updated correction code values rather than a model of

the active matrix device behavior". However, it is not clear what is the difference

between the circuit feedback of Salam and the claimed invention. Salam teaches the

use of photosensor located on the display for sensing the light output from the display

and a code value corrector for producing a corrected code value which is the same way

applicant's "relying on actual feedback" disclosed device. Is that met the requirement of

applicant argument "actual feedback and updated corrected code value" because

Salam does not relies on "model (?)of the active matrix device behavior".

On page 3, second paragraph, applicant argues that Shen does not teach "as

there is no feedback loop based on actual display light emission which enables

compensating for <u>actual changes in the display performance over time</u>". However, the

limitation " compensating for actual changes in <u>the display performance over time</u> is

not recited in the claim". Applicant argues that Shen feedback is not based on actual

display performance sensed by a photosensor. However, actual display performance

sensed by a photosensor is taught by Salam and Shen<u>. Applicant does not take into</u>

<u>consideration column 8, lines 64-68 of Shen (using CCD camera for measuring the</u>

<u>light output of the pixels of a display device)</u>. Thus, both Salam and Shen solve the

same problem of compensating for actual changes in the display performance over

time. Applicant argues that column 3, lines 1-12 in Shen simply discloses "estimating

correction or aging value and store them. However, before storing the value, Shen

teaches that " voltage sensing <u>circuitry 94 is coupled to the display device</u>

93 <u>to measure the voltage</u> across each image pixel as a current IN determined by

the multiplexer/digital-to-analog converter (mux/DAC) 92 is applied to the

pixel" (see column 7, lines 47-64). Thus, the correction value in Shen is not pre-stored as applicant's argument., but it is based on measuring and calculating.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603. The examiner can normally be reached on Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras can be reached on (703) 305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Chanh   Nguyen
Primary Examiner
Art Unit 2675

C. Nguyen
January 20, 2005